

# Work Order ID 102159

\*102159\*

Page 1

May-27-13 12:40:25 PM

Item ID: D412-783-011

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Gross Weight Towing

Start Date: 5/22/13 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 5/27/13 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 13-05-30 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D3943

E

IIN-D412-783

C

100

0.00

\*100\*

DC

Document Control

Memo

0.00

Photocopy bluefile & type labels per PPPD412-783-011 CHG 004

110

Pick Kit

0.00

\*110\*

Packaging

Packaging

Memo

0.00

13624

11.10. 13-06-4

13-6-24

13-06-19

13-06-19

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|   |             |             |            |   |                          |   |                        |                     |                     |  |  |
|---|-------------|-------------|------------|---|--------------------------|---|------------------------|---------------------|---------------------|--|--|
| <b>Work Order:</b> _____<br><br><b>Part No.</b> _____<br><br><b>NCR No.</b> _____ |             |             |            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                          | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                        |                     |                     |  |  |
| <b>Root Cause</b>   | <b>Date</b> | <b>Step</b> | <b>Qty</b> | <b>Description of work order update or Non-conformance</b>  | <b>Initial Chief Eng</b> | <b>Action Description</b>   | <b>Sign &amp; Date</b> | <b>Verification</b> | <b>QC Inspector</b> |  |  |
| Doc/Data  |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Equip/Tooling   |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Operator  |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Material  |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Setup   |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Other   |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Process   |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Supplier  |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Training  |             |             |            |   |                          |   |                        |                     |                     |  |  |
| Unapproved  |             |             |            |   |                          |   |                        |                     |                     |  |  |

| FAULT CATEGORY  |   |   |   |
|---|---|---|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |

# Work Order ID 102159

\*102159\*

Page 2

May-27-13 12:40:25 PM

Item ID: D412-783-011

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Gross Weight Towing

Start Date: 5/22/13 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 5/27/13 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start \*NR1\*

QC: Date: SPC (Y/N): Date:

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

120

QC4- 100% Inspect kits for completeness

0.00

\*120\*

QC

Memo

0.00

Quality Control

\*\*\*ENSURE CALIBRATION CERT. IS IN IIN PAPER WORK\*\*\*

130

0.00

\*130\*

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D412-783-011

Location:

PPP Rev:

140

QC21- Final Inspection - Work Order Release

0.00

\*140\*

QC

Memo

0.00

Quality Control

(K) 13/6/24 SD

13/6/25

13-06-25

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>  | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

| Landing Gear  | General                                 | Other  |
|---|---|--|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabeled                      |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |
|   |   | <input type="checkbox"/> Ovalized                        |
|   |   | <input type="checkbox"/> Over/Under tolerance            |
|   |   | <input type="checkbox"/> Part Incorrect                  |
|   |   | <input type="checkbox"/> Part Lost/Missing               |
|   |   | <input type="checkbox"/> Part Moved                      |
|   |   | <input type="checkbox"/> Positioned Wrong                |
|   |   | <input type="checkbox"/> Power Loss/Surge                |
|   |   | <input type="checkbox"/> Pressure/Forced                 |
|   |   | <input type="checkbox"/> Temperature/Cure                |
|   |   | <input type="checkbox"/> Weld                            |
|   |   | <input type="checkbox"/> Wrong Stock Pulled              |
|   |   | <input type="checkbox"/> Other                           |

# Picklist Print

May-27-13 12:40:25 PM

Page 1

Work Order ID: 102159  
Parent Item: D412-783-011  
Parent Item Name: Gross Weight Towing

Start Date: 5/22/13

Required Date: 5/27/13

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 09-06-02 JLM Verified By:EC IPP Rev:B @ chg 002 DD  
10.02.22 Verified By:EC IPP Rev:C @ chg 004 DD 11.08.15 DD verf:JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

**D3943-041**  
Ground Handling Crank Assembly

**D3951-041**  
Equipment Bag Assembly

Location

Loc Qty

Loc Code

ST229

4

101051

4

ST230

3

84428

3

Manufactured No

110

Each

17.0000

**D3954-1**  
GWT Pin

Location

Loc Qty

Loc Code

ST077

17

100911

12

70030

1

97154

4

Manufactured No

110

Each

2.0000

**D3954-3**  
GWT Knob

Location

Loc Qty

Loc Code

ST077

2

96409

2

Handwritten notes and signatures:

- 101374
- 102223
- 100911
- 96409

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |
|--|---|---|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |
|--|---|---|

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

| Landing Gear  | General                                 |  |   |
|---|---|--|---|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           | <input type="checkbox"/> Ovalized             |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        | <input type="checkbox"/> Over/Under tolerance |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           | <input type="checkbox"/> Part Incorrect       |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear | <input type="checkbox"/> Part Lost/Missing    |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     | <input type="checkbox"/> Part Moved           |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabeled                      | <input type="checkbox"/> Positioned Wrong     |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         | <input type="checkbox"/> Power Loss/Surge     |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          | <input type="checkbox"/> Pressure/Forced      |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              | <input type="checkbox"/> Temperature/Cure     |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 | <input type="checkbox"/> Weld                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              | <input type="checkbox"/> Wrong Stock Pulled   |
|   |   |  | <input type="checkbox"/> Other                |

| ITEM No. | QTY -041 | QTY -051 | QTY -053 | PART NUMBER | DESCRIPTION                                | PREFERED SUPPLIER                     |
|----------|----------|----------|----------|-------------|--|---------------------------------------|
| 1        | X        |          |          | D3943-041   | GROUND HANDLING CRANK ASSEMBLY             |                                       |
| 5        | 1        | X        |          | D3943-051   | HANDLE ASSEMBLY                            |                                       |
| 6        | 1        |          | X        | D3943-053   | CHAIN ASSEMBLY                             |                                       |
| 11       |          | 1        |          | D3943-1     | HANDLE                                     | M/F HANDLE FROM DIS-ASSEMBLED ITEM 39 |
| 12       | 1        |          |          | D3943-3     | HANDLE EXTENSION                           |                                       |
| 13       |          | 1        |          | D3943-5     | PLATE                                      |                                       |
| 14       |          | 2        |          | D3943-7     | STUD                                       |                                       |
| 15       |          |          | 1        | D3943-9     | CHAIN                                      | USE CHAIN SUPPLIED WITH ITEM 39       |
| 16       |          |          | 1        | D4405-1     | EYE AND FORK SWIVEL                        |                                       |
| 21       | 1        |          |          | D2690-4     | LANYARD                                    |                                       |
| 22       | 1        |          |          | D3585-1     | SET SCREW                                  |                                       |
| 23       | 1        |          |          | D3949-041   | REMOVE BEFORE FLIGHT FLAG                  |                                       |
| 24       |          |          | 1        | D3954-5     | CHAIN LUG                                  |                                       |
| 25       | 1        |          |          | D3954-7     | RATCHET LUG                                |                                       |
| 26       |          |          | 1        | D3954-9     | GWT CHAIN PIN                              |                                       |
| 31       | 1        |          |          | AN5-11A     | BOLT                                       |                                       |
| 32       | 1        |          |          | AN960-516   | WASHER                                     |                                       |
| 33       | 1        |          |          | MS21042L5   | NUT  |                                       |
| 39       | 1        |          |          | 8143919     | LEVER CHAIN HOIST (POWER FIST)             | PRINCESS AUTO / 4000 lbs CAPACITY     |
| 51       | 1        |          |          | S-1475      | SPRING                                     | REID SUPPLY                           |
| 52       | 1        |          |          | 3408A59     | BALL PLUNGER                               | McMASTER CARR                         |
| 53       | 1        |          |          | HX-15       | SOCKET HEAD CAP SCREW 1/2-20 UNC X 0.75 LG | HASKINS                               |
| 54       | 1        |          |          | HX-16       | SOCKET HEAD CAP SCREW 1/2-20 UNC X 1.0 LG  | HASKINS                               |

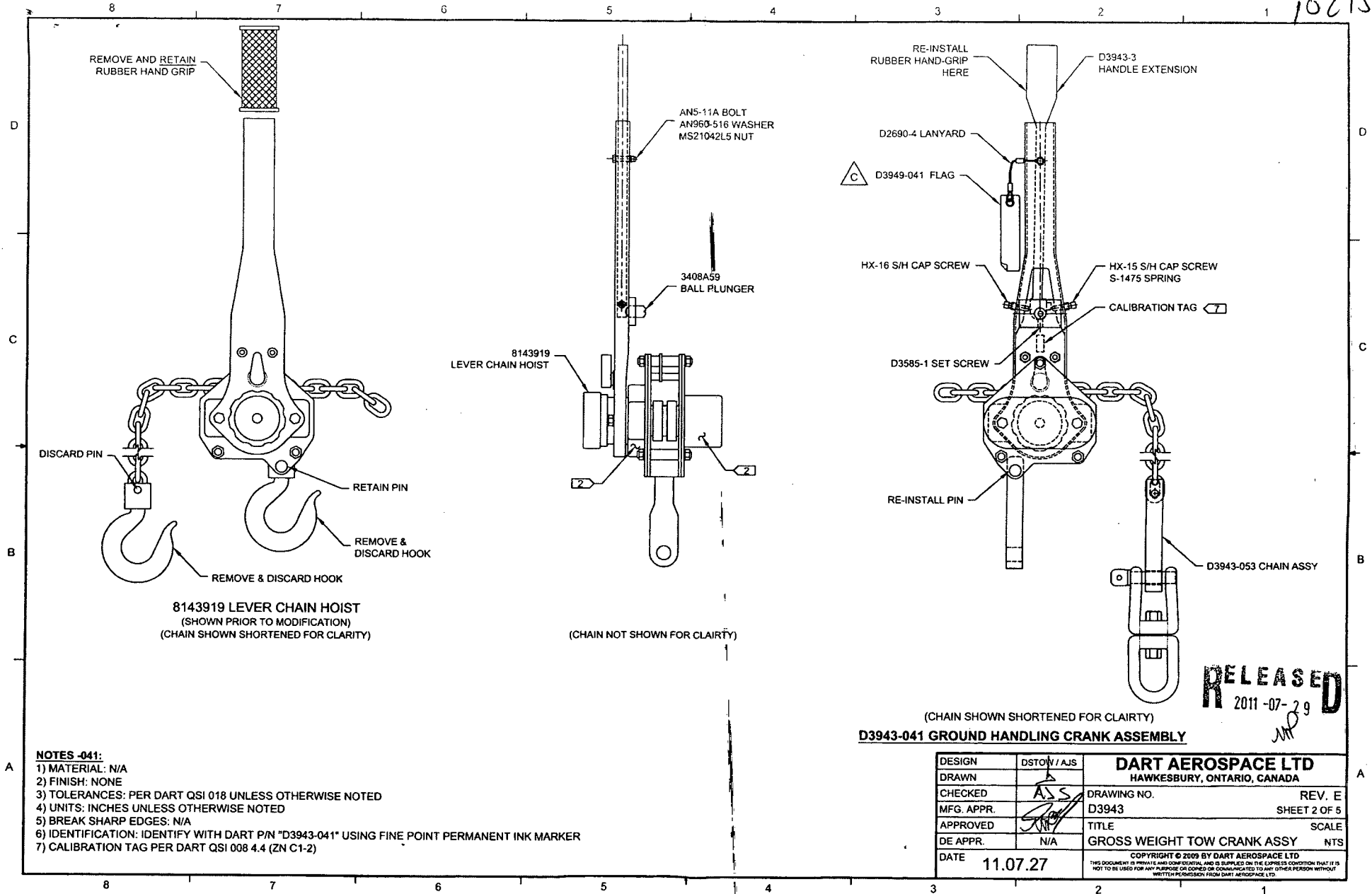
SH  
R  
E  
UNCO  
SUBJ

W  
V  
NO 102159 MCT  
13-05-30

RELEASED  
2011-07-20

|            |   |  |          |
|------------|---|--|----------|
| E          | CHANGED D3945-3 MATL TO SS (B8-5); FINISH NOW "NONE" (A7-5); TAP DRILL FOR 1/4-20 UNF-2B WAS PILOT HOLE NOTE (B1-5). PER PAR11-113.   | MB   | 11.07.27 |
| D          | SHT 1 PL, ITEMS 51-54 RENUMBERED SEE PREV. REV. FOR DETAILS, ITEM 16 ADDED (VIEWS UPDATED). SHT 2 ZN D3 FLAG RELOCATED. SHT 3 ZONE D3, Ø0.12 HOLE DELETED. (SEE NCR 11-495) | AJS  | 11.05.16 |
| C          | RMV FINISH -041 (ZN A8-2), ADD NEW FINISH -051/-053/-1/-3 (A8-3/-4/-5), ADD CALIBRATION (A8-2), (1) HX-16 WAS HX-15 (B3-1, C3-1). PAR 10-001                                | CP   | 10.01.26 |
| B          | SHT 1 PL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS 0.75 LG. SHEETS 2 - 5 NOTES; FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT.     | AJS  | 09.10.15 |
| A          | NEW ISSUE   | AJS  | 09.05.13 |
| REV.       | DESCRIPTION   | BY   | DATE     |
| DESIGN     | DSTON / AJS   | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA<br><br>DRAWING NO. REV. E<br>D3943 SHEET 1 OF 5<br><br>TITLE SCALE<br>GROSS WEIGHT TOW CRANK ASSY NTS<br><br>COPYRIGHT © 2009 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |          |
| DRAWN      |   |  |          |
| CHECKED    | ASS   |  |          |
| MFG. APPR. |   |  |          |
| APPROVED   |   |  |          |
| DE APPR.   | N/A   |  |          |
| DATE       | 11.07.27  |  |          |

102159



**NOTES -041:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER
- 7) CALIBRATION TAG PER DART QSI 008 4.4 (ZN C1-2)

|  |             |  |              |
|--|-------------|--|--------------|
| DESIGN   | DSTON / AJS | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN  | ASS         | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | ASS         | DRAWING NO.                            | REV. E       |
| MFG. APPR.   | ASS         | D3943                                  | SHEET 2 OF 5 |
| APPROVED   | ASS         | TITLE                                  | SCALE        |
| DE APPR.   | N/A         | GROSS WEIGHT TOW CRANK ASSY            | NTS          |
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102159

D3943-1 HANDLE

2 PL

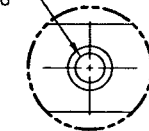
9.75

2.00

Ø0.31  
THRU

D3943-7 STUD  
2 PL

THREAD  $\frac{1}{4}$ -20 UNC-2B  
THRU



**VIEW A-A** A5-3  
(SCALE 2X) B5-3

2 PL

9.38  
REF

A B1-3

A B1-3

D3943-5 PLATE

**D3943-051 HANDLE ASSEMBLY**

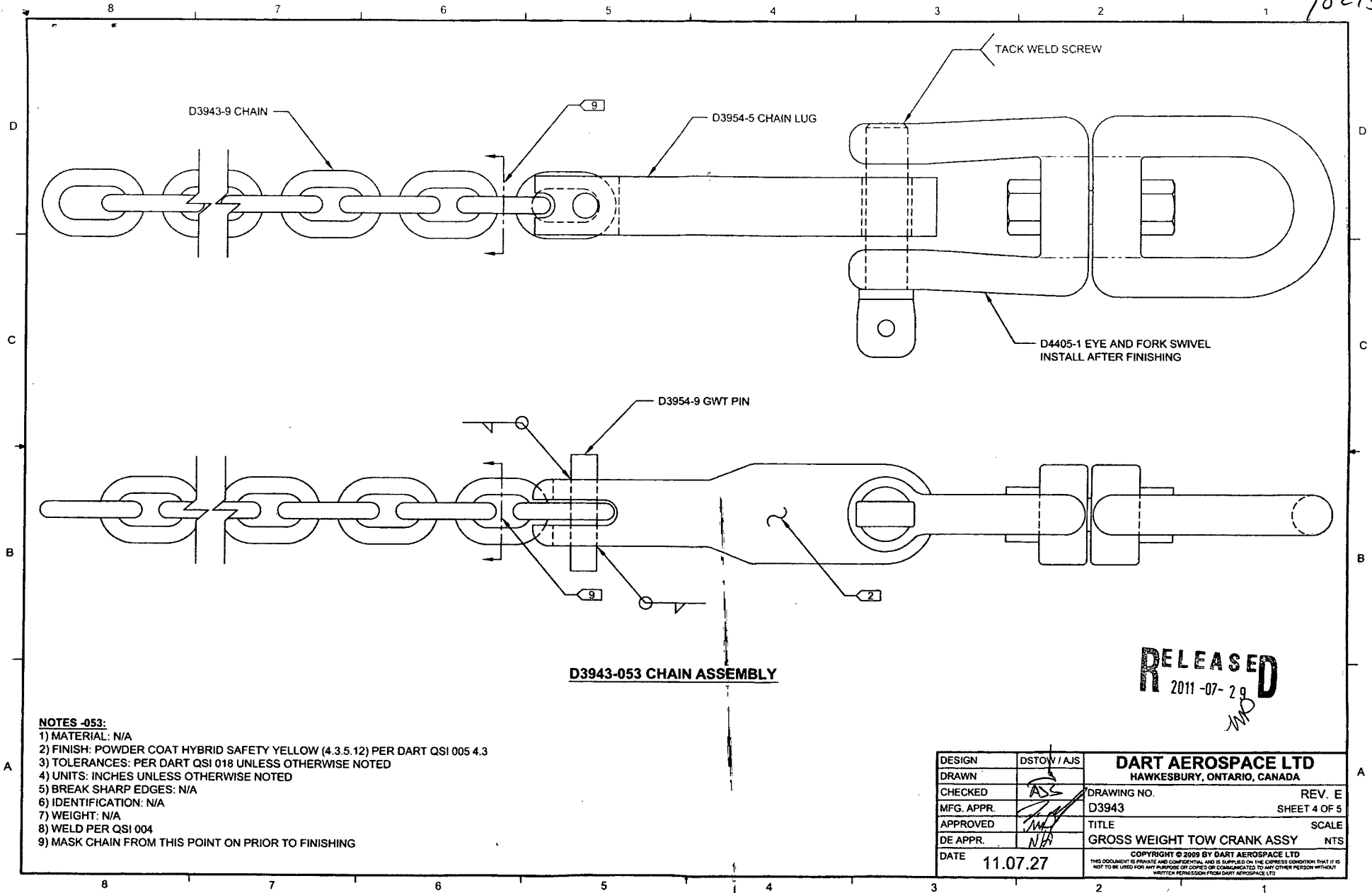
**NOTES -051:**

- 1) MATERIAL : N/A
- 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS  
PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) MASK ALL THREADS PRIOR TO FINISHING

**RELEASED**  
2011-07-29

|            |             |  |              |
|------------|-------------|--|--------------|
| DESIGN     | DSTOW / AJS | <b>DART AEROSPACE LTD</b>  |              |
| DRAWN      |             | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED    | ASS         | DRAWING NO.  | REV. E       |
| MFG. APPR. |             | D3943  | SHEET 3 OF 5 |
| APPROVED   |             | TITLE  | SCALE        |
| DE APPR.   | N/A         | GROSS WEIGHT TOW CRANK ASSY  | NTS          |
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102159



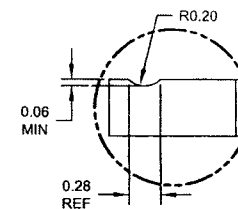
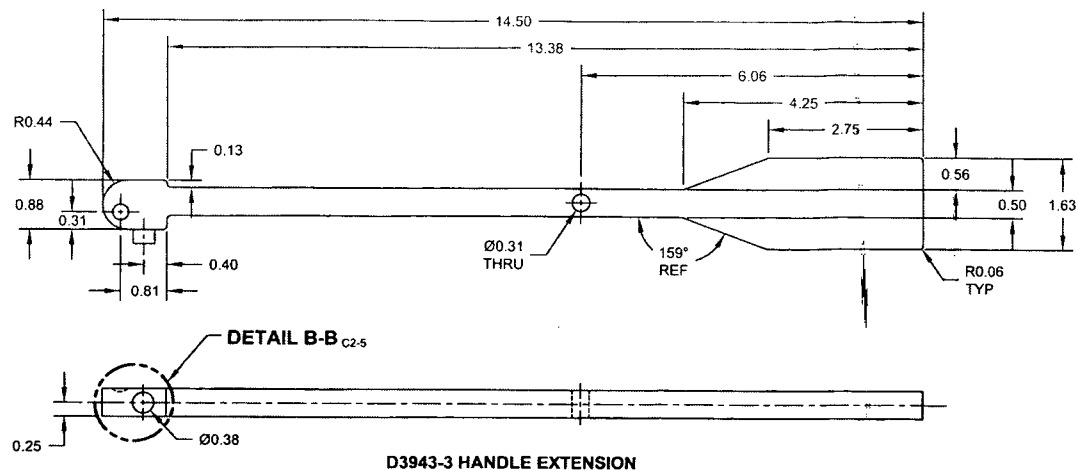
**D3943-053 CHAIN ASSEMBLY**

- NOTES -053:**
- 1) MATERIAL: N/A
  - 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: N/A
  - 8) WELD PER QSI 004
  - 9) MASK CHAIN FROM THIS POINT ON PRIOR TO FINISHING

**RELEASED**  
2011-07-28  
MD

|   |             |                             |              |
|---|-------------|-----------------------------|--------------|
| DESIGN  | DSTOW / AJS | <b>DART AEROSPACE LTD</b>   |              |
| DRAWN   | ASS         | HAWKESBURY, ONTARIO, CANADA |              |
| CHECKED   | ASS         | DRAWING NO. D3943           | REV. E       |
| MFG. APPR.  | MA          | TITLE                       | SHEET 4 OF 5 |
| APPROVED  | MA          | GROSS WEIGHT TOW CRANK ASSY | SCALE        |
| DE APPR.  | NH          | DATE 11.07.27               | NTS          |
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102159



**DETAIL B-B C7-5**  
(DIMPLE DETAIL)  
(SCALE 2X)

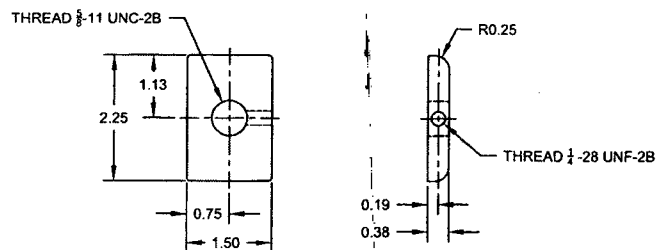
**NOTES:**

1) MATERIAL -3: AISI 304/316 STAINLESS STEEL SHEET  
ANNEALED 2B FINISH PER MIL-S-5059  
OR AMS 5513 (304) OR AMS 5524 (316)  
OR ASTM A240 OR ASME SA240  
REF DART SPEC M304S  
OR:  
AISI 303 STAINLESS STEEL SHEET  
ANNEALED 2B FINISH PER MIL-S-5059  
ASTM A240 OR ASME SA240  
REF DART SPEC M303S

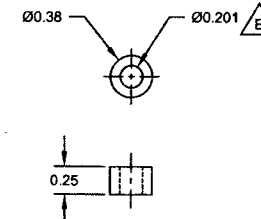
-5: MILD STEEL, SHEET  
AISI 1010-1025 OR ASTM A36/A366/A1008  
OR CSA G40-21, 38W/44W/50W/60W/70W  
REF DART SPEC M1010-S  
OR:  
MILD STEEL, BAR  
AISI 1010-1025 OR ASTM A36/A366/A569/A570  
OR CSA G40-21, 38W/44W/50W/60W/70W  
REF DART SPEC M1010-B

-7: MILD STEEL, ROUND BAR  
AISI 1018-1025  
PER MIL-S-7097  
REF DART SPEC M1018-R

- 2) FINISH: NONE  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: N/A



**D3943-5 PLATE**



**D3943-7 STUD**  
(SCALE 2X)

**RELEASED**  
2011-07-28

|            |             |   |              |
|------------|-------------|---|--------------|
| DESIGN     | DSTOW / AJS | <b>DART AEROSPACE LTD</b>   |              |
| DRAWN      |             | HAWKESBURY, ONTARIO, CANADA   |              |
| CHECKED    | ASS         | DRAWING NO. D3943   | REV. E       |
| MFG. APPR. |             | TITLE   | SHEET 5 OF 5 |
| APPROVED   |             | GROSS WEIGHT TOW CRANK ASSY   | SCALE        |
| DE APPR.   | N/A         |   | NTS          |
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